SYNOPSIS

IMPACT OF COVID-19 PANDEMIC ON PHARMACEUTICAL INDUSTRY

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ABSTRACT

COVID-19 has led to unprecedented effects on the economic and social lives India along with the whole world. Different sectors of Indian economy has faced different problems in terms of losses and decreased sale. Under different industrial sectors pharmaceutical sector of India acquires special importance owing to its utility products in the areas of medicine and surgery. Besides the employment generation capacity and exports for earning foreign exchange in international markets pharmaceutical industry of India has its contribution in the overall development of the economy as well. During COVID-19 it has contributed tremendously in the development of treatments, different tests for diagnosis, vaccines to be given to people to ingest immunity, and several other tools to assist the doctors and health practitioners to deal with the devastating scenario confronted by the global economy. India has acquired central place in the development of various generic medicines as well, which are used to treat patients with various ailments at very economical rates. It is instrumental in saving millions of lives across globe. During the COVID-19 pandemic it has adopted various processes, which can be used to meet the demand for various types of medicines at speedy pace. Apart from the manufacture of COVID-19 related medicines, demand for other medicines meant to cure other ailments also increased. Present study endeavours to put forward the impact of COVID-19 pandemic on the pharmaceutical industry.

INTRODUCTION

Corona virus disease 2019 (COVID-19) pandemic has taken the whole world in its stride. COVID-19 caused by SARS – COV2 has led to unprecedented impact on various sectors of the economies, the world over. It led to widespread losses for the businesses and lives and to combat the losses inflicted by it, the government of different nations imposed lockdowns and public safety restrictions. In India too, the government imposed lockdowns in almost all states and union territories from March 24, 2020 onwards.

As a consequence of these lockdown and restrictions almost all the businesses in different industrial sectors across the globe had to suffer losses of huge amount. The pandemic led to many negative and some encouraging impacts on pharma industry of the whole world, which

cannot be neglected. There were many problems, which were confronted by the pharma industry of different nations and to fight these problems the pharma sectors of different nations girdled up their loins and Indian pharma industry, too took several measures in collaboration with the planning authorities or the country and the drug regulatory authorities which have been crucial to maintain the decent levels of growth of this sector despite devastating impact on different sectors of Indian economy.

Indian pharmaceutical industry can be called upon as the one of best in the world, which has been playing a pivotal role in the health infrastructure of the world, and has been assisting the healthcare industry of almost all the countries of the world, in one form or the other.

It is no surprise that the Indian pharma industry acquires first position in the area of pharmaceuticals. The pharmaceutical industry of India has played a crucial role during COVID-19, and has contributed to the tune of 60 percent in the manufacture of vaccines against tetanus, diphtheria, and pertussis. They are in great demand by the international entities like the World Health Organisation (WHO), UK Medicines and Healthcare Products Regulatory (MHRA) and the US Food And Drug Administration (FDA).

The medicines, which are manufactured by the Indian pharma has been approved to operate more than 250 factories in the country. The medicines manufactured in these factories are consumed by people of different nations. According to estimates of medical fraternity the active ingredient which is called API and is a main ingredient for manufacturing drugs would give rise to significant revenue to the tune of $ 6 billion that too as early as by the end of 2021. Pandemic induced by corona virus has significant damage to both exports and imports of various goods related to pharmaceutical industry.

Moreover, it has the potential to impact the prices of medical devices in the short term. Future of healthcare industry after COVID 19 has waged an undeclared war against society encompassing all quarters of socio – economic health and hygiene fronts.

As a consequence of the COVID-19 impact on different economies there have been forwarded fiver predictions pertaining to the condition of the Global Healthcare Industry Post COVID 19 –

1. The Kingdom of Saudi Arabia (KSA), United Arab Emirates (UAE) and Indian tele-health markets have reached a tipping point with growth of more than 200 percent during the pandemic.
2. Informatics & artificial intelligence (AI) solutions addressing workflow automation and operational analytics will witness 100% growth in 2020.
3. The United States will have an excess of 100,000 ventilators, while Western Europe will purchase another 30,000 to 50,000 ventilators through the end of 2020.
4. By the end of 2020, 33% of global clinical trials will be disrupted.
5. Traditional models of in – vitro diagnostics (IVD) testing in a healthcare setting are unable to meet unprecedented demand by the end of 2020.

Pandemic has been a continuous source of dismay and depression owing to the onslaught launched by it on general public. It not only affected their lives but caused great loss to the general business and source of livelihood also. Millions of people lost their jobs and were stranded on roads due to general depression in job markets of different countries, leave alone India. COVID-19 has led to disproportionate affect on different populations. It has blitzkrieged various economies in different measures, and has led to tremendous loss of lives and businesses. But health sector is directly connected to the cure and care of people in general, and has witnessed skyrocketed demand in medicines of all types. People have stocked up different types of medicines for the fear of getting infected with COVID- 19.

According to the estimate of Pfizer and Moderna, the popular pharma companies the pharmaceutical industry of India is at a whopping level of $ 41.7 billion, which in itself is an unbelievable figure. There have been certain sbottlenecks in the supply of raw material, sometimes, due to frequent lockdowns, and at other times, due to fear of workforce not coming to work. There was limited supply of labour, packaging material, limited facilities for generating sales and marketing and sales outlet. Yet the medicines were in great demand, which fuelled the phama sector and led to manifold increase in its revenues. Nonetheless government of India took cognizance of this situation and made an announcement to make a huge investment of INR 10000 crore in April 2020 for the production of API’s in India. Previously India had to depend on china for the production of API’s but government of India decided to end up this limitation, or at least limit it, and undertook the initiative of manufacture of API’s in India.

The pharmaceutical industry of India is developing and prospering by leaps and bounds and has growth drivers, which are distinct to Indian economy.

Some of them are written as under:

- Innovation and Research and Development in the area of generic medicines.
- Infrastructure development to produce more medicines.
- Drug manufacturing to cater the domestic demand.
- Huge demand of health industry.
- General awareness of public towards health issues.
- Increase in the demand of immunity enhancement medicines.
- Increase in the outreach of pharma industry.
- Growing demand of medicines in rural sectors of India.
- Increased notion of health and hygiene among common masses.
- Increased income of general masses.
- Increased number of hospital and healthcare services in far flung areas.
- Increased dependency of people on health care medicines.
- Increased boost to sales by companies.
- Increased research and development activities carried on by the companies.
- Increased expansion of pharma industries in different segment of medicines.
- Increased level of medical care facilities.
- Increased number of foreigners coming to India for treatment.
- Availability of cheap and better healthcare services in India.
- Better surgery options in India.
- Large number of doctors and medical communities going online.
- Increased number of online healthcare apps in the market.

All the above mentioned drivers are further added up by various factors, which contribute towards the development of pharma sector of India, and the demand for medicines and medical equipments.

Of lately there has been a number of companies, going on for online publicity of their medicines with the help of doctors and medical practitioners. Moreover, several ‘Online Apps’ for availing the consultation of doctors and medical practitioners along with the types of medicines, which should be taken along with the type of ailment has given a tremendous boost to the demand for medicines, and which eventually is leading to manifold and speedy development of the pharma sector in India.

Apart from the above mentioned factors there are several other factors which have been responsible for the push in supply and demand for the products of the pharmaceutical industry, and have led to tremendous development of this sector. Moreover, during the ongoing times of pandemic and emergence of different types of mutations of the COVID-19 virus, the Drug regulatory authority of India took various swift and needful measures, which facilitated the development of the pharmaceutical industry.

The relaxations provided by the health ministry, and the support provided therein, led to several other driving forces into action, and helped in the growth of pharma industry in India at a speedy rate.

But there were certain drawbacks, which acted as impediments. The pharmaceutical industry of India is dependent on China for the availability of the key starting material (KSMs). It has also been witnessed that the API, which was provided by China has come to halt, and as a consequence, decreased the existing efficiency of the operations of the Indian pharmaceutical industry. Due to frequent lockdowns announced in India, there were supply bottlenecks. Besides, the international travel facilities were held up, which led to unavailability of these materials and caused losses.

The dependency of Indian manufacturers on china caused them widespread losses, which are not easy to cover in immediate times, given the uncertain nature and time length of the existence of virus in different nations. The disruptions emerging on the account of supply side bottlenecks has reduced the revenue by 10.15 percent. Despite this, the short-term downfall, the supply side impediments will soon alleviate, and the imports from china, which stand to the tune of 85 percent, will soon resume, assisting the smooth working of the pharmaceutical industry.

Apart from the problems of essential resources for production, the movement of people and the raw materials was greatly restricted by pandemic and led to widespread impact on lives and business. Moreover, due to frequent lockdowns and restrictions on the movement of people led to problems in the conduction of clinical trials, which are the first and foremost requirement of the development and manufacture of generic medicines. As a result of this hurdle in clinical trials, the launch of new medicines was greatly limited and led to inability of Indian pharmaceutical sector in selling its medicines to the United States and other companies established in different nations. As a result of this many companies suffered huge losses.

REVIEW OF LITERATURE

There is burgioning amount of literature available on the topic undertaken for study and gist of some of the most important studies and researches are given as under:

Thomas & Sindhu, 2021 in their paper discussed the chanllenges due to covid -19 at its impact on varous manufacturing units and the units involved in suply of raw manterislas. It aslo discussed the problems in business operations of different nations. According to them, the outburst of COVID-19 is the major incident that happened in 2020, till yet. It already impacted 12.5 million in the world and still going strong. The COVID-19 surged as a pandemic and affected millions of lives, along with the business operations in the global market. Considering the current market conditions, the virus is rapidly impacting the consumption and supply chain for the companies in the market. They further said that it is impacting the whole world and has induced great level of uncertainty in the functioning of various sectors of the economies of almost all the nations (Thomas & Sindhu, 2021).

As per an aricle published under the name of - Coronavirus Pandemic : An Indian Perspective Coronavirus Pandemic : An Indian Perspective, 2020, the pandemic of COVID-19 has caused unprecedented and widespread changes in almost all the economies of the world, and the world surely will not remain as it was before its inception. In addition it discussed the devastation of the virus on various sectors of the economy and disruptions in supply chains, which have hampered the production activities across different industrial sectors (Coronavirus Pandemic : An Indian Perspective Coronavirus Pandemic : An Indian Perspective, 2020).

As per the article published by Planet (n.d.) there has been a widespread increase in the

emergence of ever new diseases, which are cusing havoc on the lives and the businesses of the countries spread across the world. As per the paper ever novel diseases are being created because a globalized, industrialized, inefficient food and agriculture model is invading into the ecological habitat of other species and manipulating animals and plants with no respect for their integrity and their health. The paper further elaborated that the health emergency that the corona virus is waking us up to, is connected to the emergency of extinction and disappearance of species, and it is connected to the climate emergency. Further, it discussed the role of pharmaceutical industries of different nations in combating this crisis (Planet, n.d.).

The paper Poddar in the year 2020 put forward the consequences of the COVID-19 on the lives and economies of different nations and elaborated on the deadly impact of COVID-19 on the production and growth of different industrial sectors. The pharma industries of different nations are the only hope in this regard to ameliorate the pathetic condition of ailing people. But the million dollar question is the growth of pharmaceutical industry, which too has come under the scanner. It is the most powerful sector, which can combat the deadly impact of the COVID-19 crisis and help people fight it with urgency and care (Poddar, et al., 2020).

The paper of Elsafty & Osman (2021) amplifed on the impact of Corona Virus Disease COVID-19 on the manufacturing capacity and growth prospects of the pharmaceutical industry of india which too has come under great losses and unprecedented effects as a consequence of the virus and its deadly impact on the communities in disproportionate measures. The paper further elaborated that the 'Production Efficiency' in pharmaceutical facilities is questionable to withstand the drastic conditions under which the drug manufacturing supply chains are. Overall Equipment Effectiveness (OEE) is a primary indicator of efficiency. The paper aimed to demonstrate a comprehensive overview on the factors impacting OEE and how they are affected by COVID-19. In order to better understand the business model under study and have clearer vision on the impact of COVID-19 on each aspect of it, the business anatomy model '9 Elements' by Elsafty (2018) was used. The time horizon of this study was 2020 to understand the impact of the COVID-19 pandemic on the pharmaceutical manufacturing performance. The paper found the pandemic led to increase the pharmaceutical products demand, which subsequently put a pressure on supply planners to alter the production scheduling. COVID-19 unravelled the weaknesses in the supply chains and the overreliance on materials suppliers of one

source. This had a direct impact on the supply of materials and spare parts. Production efficiency has also been impacted by the health conditions of workers and operators might be community infected. Lack of high-skilled workers leads to decrease in the productivity due to the inability to manage and solve problems the right way and independently. Materials and finished goods quality are questionable in such situation. Introduction of counterfeit and falsified materials is a predictable side effect. It is concluded that OEE is affected by COVID-19 that moderates the inputs of OEE; availability, performance and quality. The pandemic has an impact (positive or negative) on the top losses of a machine efficiency (Elsafty & Osman, 2021)

The COVID-19 pandemic has tremendously given a huge shock on world economy (Nayak et al., 2020). The paper of Nayak et al., elaborated on the impact of the COVID-19 pandemic on the production and supply chains, apart from the disruptions in the demand of different essentials and the luxuries in the markets of different regions of India. (Nayak et al., 2020)

Study Bansal et al., (2020) intended to put emphasis on the impact of COVID-19 on Indian economy. It put forward that Indian economy was running as usual and suddenly at the end of third quarter of fiscal year 2019-20 a novel corona virus entered in Indian Territory and started to infect the people silently. As a consequence, every industry got adversely affected by this COVID-19 a global pandemic. (Bansal et al., 2020)

The paper of Alam (2020), went on to describe the hazardous nature of the Corona virus disease (COVID-19) and said that Corona virus has disturbed the global set up and has created mayhem throughout the world including India. It has not only resulted into death of thousands of people but also affected the economy of India in an adverse way. It is a gigantic challenge for the Indian economy because it is already facing the setback of rapidly rising unemployment, rising interest rates and fiscal deficit. The Indian economy is expected to drop $ 4500 million per day during the lockdown, and the informal sectors, daily wages workers and the farmers of the country are constantly facing tremendous uncertainty. There is no doubt that the current pandemic disturbed human lives and global supply chain but also disturbed the effective demand of the economy. The paper attempted to explore the economic impact of Corona virus pandemic in India and the challenges that India faces to fight and control the disease. (Alam, 2020)

Singh et al., (2020), in his paper elaborated and elucidated on the deadly impact of COVID- 19

pandemic on the health care systems of different societies. The paper put forward the positive impacts of e-pharmacy, which is being adapted because medications can be ordered in a one click and conveniently delivered to customer door step with some risk like misuse of drugs and self-medication especially for those drugs which comes under the schedule H and X. His review paper focused on the basic issues and challenges related to online pharmacy and how can it be beneficial to society and pharma sectors in the pandemic situation (Singh et al., 2020).

Dhillon & Tyagi, 2020 in their paper elaborated on the drastic impact of COVID-19 on the world's economy. And as per the estimation of paper all the sectors including the pharmaceutical sectors has received a severe jolt. Besides the share market and the overall business of India and the world has also got impacted. (Dhillon & Tyagi, 2020).

Sunarsi et al., 2020 studied the effect of covid-19 pandemic and undertook a detailed analysis toward productivity, giving layoffs effect, in the companies of industrial sectors. The method used was explanatory research with a sample of 96 respondents. The study revealed that the pandemic has led to devastations across different sectors and huge losses to business communities the world over.

Novelty et al., 2021 elucidated on the devastatious effects of the covid pandemic on the countries which come under the category of developing and developed nations. It is noticeable that the results of this crisis are the worst and most influential if compared to previous crises in the global economy. Its consequences, in addition to the large human losses witnessed by the world as a whole, included economic losses, especially in the financial markets and overall industrial sectors of the economy (Novelty et al., 2021).

IDENTIFICATION OF RESEARCH GAPS

The papers and studies forwarded by different scholars in the field of the effects of COVID-19 has provided a robust insight into the problems that different nations are facing during the pandemic. Thomas & Sindhu, 2021 in their paper discussed the chanllenges due to covid -19 at its impact on varous manufacturing units and the units involved in suply of raw manterislas. It aslo discussed the problems in business operations of different nations. As per an aricle published under the name of - Coronavirus Pandemic : An Indian Perspective Coronavirus Pandemic : An Indian Perspective, 2020, the pandemic of COVID-19 has caused unprecedented

and widespread changes in almost all the economies of the world, and the world surely will not remain as it was before its inception.

All the studies mentioned above have provided a deep insight into the problems confronted by the pharmaceutical industry but they are lacking in provisions of pharmaceutical industry, Indian Pharmaceutical Industry and its current trends, economic position of the companies engaged in Pharmaceutical companies, role of various acts and amendments in the Pharmaceutical Industry, and the impact of relaxations provided by Health Ministry for the development of pharmaceutical Industry. And hence to address these research gaps present study entitled, "**Impact of Covid-19 Pandemic on Pharmaceutical Industry" has been undertaken to** make appropriate suggestions based on research findings for the growth and development of The Indian Pharmaceutical industry.

OBJECTIVES OF THE STUDY

Every research is required to be guided by the objectives for providing a blueprint to the study that is intended to be undertaken by the researcher. Objectives of research are the set guidelines, which provide a definite direction to the research and saves time and energy that, could have been wasted by simply groping in darkness in the absence of definite objectives. Objectives are generally framed before the study is undertaken. Present study has also undertaken certain objectives which can be written as under:

1. To Study the Indian Pharmaceutical Industry and its current trends.
2. To study the economic position of the companies engaged in Pharmaceutical companies.
3. To study and analyse the impact of COVID-19 on Pharmaceutical Industry.
4. To study the role of various acts and amendments in the Pharmaceutical Industry.
5. To evaluate the impact of relaxations provided by Health Ministry for the development of Pharmaceutical Industry.
6. To make appropriate suggestions based on research findings for the growth and development of The Indian Pharmaceutical industry.

RESEARCH QUESTIONS OR HYPOTHESES

Researchers are mainly guided by hypotheses, which are defined as the assumptions or expected outcomes from any type of research undertaken under natural or social sciences. By definition hypothesis is the prediction that can be tested and verified by undertaken research. It is simply the prediction that is taken to be right and is tested during the course of study. Normally, it is taken up for verifying the hypothesis or prediction that is undertaken by researcher for verifying the assumptions that he/she holds to be true, or at least the expected valid outcomes that is most probably expected from the outcome of the study that is proposed to be undertaken by the researcher in any field of investigation. Hypothesis is justified in a stepwise method wherein various steps are undertaken like collection of data by the primary or secondary method, experimentation, observation and finally the analysis, which is done by taking up the help of different statistical tools and packages like SPSS i.e., the statistical package for social sciences which is mainly designed by IBM statistics to facilitate the widespread use of statistical tools for research and analysis. The study is mainly done by undertaking two types of hypotheses one is Null Hypothesis and the second one is alternate hypothesis. If the null hypothesis gets rejected the alternative hypothesis automatically gets accepted or approved.

Present study has undertaken certain hypothesis, which can be put forward as under:

Ho_1 : There is no change in economic condition of pharmaceutical industry after the advent of COVID-19 in India.

Ha_1 : There is change in economic condition of pharmaceutical industry after the advent of COVID-19 in India.

Ho_2 : There is no change in the working condition of employees of pharmaceutical industry after the advent of COVID-19 in India.

Ha_2 : There is change in the working condition of employees of pharmaceutical industry after the advent of COVID-19 in India.

Ho_3: There is no change in demand and supply condition of pharmaceutical industry after the advent of COVID-19 in India.

Ha_3: There is change in demand and supply condition of pharmaceutical industry after the advent of COVID-19 in India.

Ho_4: There is no change in the Techniques of production of drugs during COVID-19 pandemic situation.

Ha_4: There is change in the Techniques of production of drugs during COVID-19 pandemic situation.

RESEARCH METHODOLOGY

All the studies that are taken up either in the area of social or natural sciences need to have a definite research methodology. Research methodology can be simply defined as the blue print of the research design that is adopted for any study under consideration. Most popular research designs that are used for different types of researches are Descriptive Studies, Correlation Studies, Semi-Experimental Studies, Experimental Studies, Revision Studies, Analytical and Meta analytical Studies, and the research subtype includes descriptive, longitudinal trials, etc. Further, the research designs provide tools to the researcher to find the appropriate solution for the problem that is taken up by the researcher under the study taken up by him or her.

Present study comes under the category of descriptive study, and so descriptive methodology will be utilized to collect data. In this study we will conclude the analytical and descriptive nature and further discuss the positive and negative Impact of Coronavirus on the Pharmaceutical Industry.

The study is mainly based on the availability and utilization of secondary data and literature and therefore primary data cannot be used for the present research analysis. The data that have already been collected and made available in public reports, private records and other sources are called secondary. This study will primarily make use of the secondary data given in different published and unpublished sources.

a) Scope and coverage of the study

1. The Pharmaceutical Industry has a wide scope as it includes the innovation, research and development procedure to cope with the COVID-19 pandemic.
2. Various, Concessions, rebate and relaxations provided by the various regulatory authorities and Ministries in various acts and amendments for the fulfilment of the unmet demand for vaccines.

3. Various challenges of the Indian pharmaceutical industry to become self-reliant.
4. Determine the actual condition of the Indian Pharmaceutical Industry.
5. Role of Government for the promotion of Pharmaceutical Industry and for overall growth and development.

b) Approach and Methodology

Tools of Data Collection

1. Unpublished Sources.
2. Sources of published data on the pharmaceutical industy of India.
3. Reports of Various agencies and newpapers.
4. International Publications and Reports etc.
5. Journals and Papers.
6. Research Work done by the Scholars in the Universities and Institutions.
7. Articles published by distinguished Scholars and Researchers on the Subject.
8. Various government publications.

The study is mainly based on the availability and utilization of secondary data and literature and therefore primary data cannot be used for the present research analysis. The data that have already been collected and made available in public reports, private records and other sources are called secondary.

We are aware of the limitations of words especially if it is the macro analysis. Therefore, a careful and intensive attempt will be made to observe the economic trend in the present analysis. The study uses the pharmaceutical industry of India as a universe to extract data so secondary data is proposed to be collected from various published sources, reference books, journals, periodicals, newspaper, and internet websites. The data so collected will be thoroughly studied to find out the underlying changes that have happened in the pharmaceutical industry of India pertaining to the objectives and hypotheses taken under present study. Finally, the trends of various economic variables related with the pharmaceutical industry, would be studied and analyzed to give a thorough statement on the negative and positive outcomes for the pharmaceutical industry of India, and conclusions and suggestions for the development of the same.

For the interpretation of the collected data, averages, percentages, index numbers, growth rates etc. would be computed and various types of tables; graphs and charts will also be prepared, wherever required.

INNOVATION PATH BREAKING ASPECT OF THE RESEARCH

The studies done so far has explained the general impact and a one sided insights into the effects that have been experienced by the economy in general and the pharmaceutical industry in particular but they fail to take cognizance of the efforts of the government and other specialized agencies in ameliorating the condition of the Indian pharmaceutical industry. So in the backdrop of these research gaps present study entitled, "**Impact of Covid-19 Pandemic on Pharmaceutical Industry" has been undertaken to** endeavours to take a note of the efforts that are being undertaken to save and forward the interests of the Indian pharmaceutical industry.

PROPOSED OUTCOME OF THE STUDY

The study endeavors to provide a deep and analytical insight into the problems faced by the pharmaceutical industry of India. Besides, it hopes and tries to throw light on the endeavors and actions undertaken by various agencies to correct the wrong that have been done by the pandemic of COVID-19 and its disastrous impact on the economy in general and specifically on the pharmaceutical industry of India. And hence this study hopes to provide the real picture of the condition of the pharmaceutical industry and solutions to the problems which the industry is confronting

NEW DATA TO BE GENERATED

The study is basically based on the data in secondary form that is available on various internet websites and published sources, besides various reports and columns written in various magazines, providing facts and insights into the problems confronted by the pharmaceutical industry of India. Present research endeavors to contribute in the forms of compiled form of data pertaining to the problems of the pharmaceutical industry and the endeavors of the government in this direction for the amelioration of the condition of the firms and ventures engaged in the production and marketing of different pharma tools and drugs to various region of Indian subcontinent and the countries across the world. Further, the study endeavors to present a

powerful picture of the Indian pharmaceutical industry and its position in the whole world on international platforms, where it is engaged in taking care of the health of the whole world.

EXPECTED CONTRIBUTION OF THE STUDY

Pharma industry provides a means of both livelihood and life saving means to the developing Indian economy and the people of India. In addition, the exports done by the pharmaceutical industry of India are a major source of foreign exchange for the Indian economy. Hence this sector acquires importance in various regards. But the advent of COVID-19 pandemic has changed all the parameters and working rules along with the demand and supply equations, and the status of international trade along with the availability and employability of the workforce, due frequent lockdowns, and various social distancing measures and restrictions on domestic and international movement of the factors of production. And hence, present study entitled, "The Impact of COVID-19 on Pharmaceutical Industry of India" has been undertaken to take a stock of the situation of the pharmaceutical industry of India, in different respects, so that timely measures can be suggested for its growth and development, with a hope to contribute in the amelioration of ongoing problems of the pharma industry. The study is expected to contribute in the literature of the studies undertaken in present area, and will find utility with the scholars, planners and policy makers of the pharma industry.

The study hopes to present a comprehensive picture of the position of the Indian pharmaceutical industry and its contribution to the health industry and the economy of India and the whole world. Further, it hopes to provide the real picture of the situation and problems the pharmaceutical industry of India is confronting and going through. It hopes for provde the details of the scope of the pharmaceutical industry and it's the innovation, research and development procedure to cope with the COVID-19 pandemic. In addition it will provide facts pertaining to various, concessions, rebate and relaxations provided by the various regulatory authorities and Ministries in various acts and amendments for the fulfilment of the unmet demand for vaccines, various challenges of the Indian pharmaceutical industry to become self-reliant, determination of the actual condition of the Indian Pharmaceutical Industry and the role of Indian Government for the promotion of Pharmaceutical Industry and for overall growth and development. Finally it endeavors to put forward the efforts made by the government of India for the betterment of the Indian pharmaceutical industry of India and provide details of various polices and amendments

done in this direction, besides providing conclusions, suggestions and solutions to the problems that the industry is facing and jostling with.

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